

REMARKS

Favorable reconsideration and allowance of the present application is respectfully requested.

Currently, claims 1-6, 8-38, and 40-55, including independent claims 1, 27, and 35, are pending in the present application. Independent claim 1, for instance, is directed to a wiper comprising a substrate and a sanitizing formulation applied thereto in an amount from about 150% to about 600% of the dry weight of the wiper. The sanitizing formulation comprises water and an antimicrobial agent that includes a quaternary ammonium compound. As amended, independent claim 1 also includes the limitations of original claim 7 to require the presence of one or more nonionic surfactants in the sanitizing formulation. Further, claim 1 requires that the surfactant component of the formulation "consist essentially of" the nonionic surfactant(s). The sanitizing formulation is also configured so that the formulation is released from the substrate as a solution during use of the wiper in food service applications. The quaternary ammonium compound is present within the solution in an amount less than about 2000 parts per million of the solution, and the wiper exhibits a log reduction for *E. Coli* of at least about 2.

In the Office Action, original dependant claim 7 (the limitations of which are now incorporated into independent claim 1) was rejected under 35 U.S.C. §103(a) as being obvious solely in view of U.S. Patent Application Pub. No. 2002/0103098 to Harrison, et al. Harrison, et al. is directed to an aqueous cleaning composition useful in removing dirt and grime from surfaces, such as glazed ceramic tiles, polished metals, enameled metal surfaces, and glazed porcelain. [0002]. As noted at paragraphs [0005] – [0009],

the aqueous cleaning composition of Harrison, et al. contains the following constituents (A) quaternary ammonium surfactant compound having germicidal properties; (B) surfactant system which includes at least one amine oxide surfactant, and at least one further surfactant selected from carboxylates and N-acyl amino acid surfactants, especially sarcosinates; (C) solvent system containing an alkylene glycol ether solvent further with a C₁-C₆ alcohol, especially where the C₁-C₆ alcohol is isopropanol; (D) alkalizing agent such as an alkanolamide, especially an alkylamine; and (E) water.

However, Harrison, et al. fails to disclose several aspects of independent claim 1 as presently amended. For example, as noted above, Harrison, et al. expressly requires that the cleaning composition contain (i) at least one amine oxide surfactant and (ii) at least one further surfactant selected from carboxylates and N-acyl amino acid surfactants. [0006]. As is well known in the art, the carboxylate and N-acyl amino acid surfactants of Harrison, et al. are "anionic" surfactants. (See e.g., Appl. pp. 22-23). To the contrary, the sanitizing formulation of independent claim 1 comprises a surfactant component that consists essentially of one or more nonionic surfactants. Thus, claim 1 specifically excludes the presence of the anionic surfactants of Harrison, et al. The exclusion of such "anionic" surfactants imparts a variety of benefits to the sanitizing formulation of independent claim 1. For example, "anionic" surfactants can cause "cationic" antimicrobial agents (e.g., quaternary ammonium compounds) to undesirably precipitate out of solution. To avoid precipitation, a formulation containing such "anionic" surfactants would thus likely require additional components to dissolve the precipitate. This is evidenced by the formulation of Harrison, et al., which requires both a solvent system and an alkalizing agent. [0007] - [0008].

Apart from the differences set forth above, Harrison, et al. also fails to disclose several other aspects of independent claim 1. For example, the sanitizing formulation of claim 1 is configured so that it releases from the substrate as a solution during use of the wiper in food service applications. When released, the quaternary compound is present in an amount less than about 2000 parts per million of the solution. Moreover, even though releasing a relatively small amount of the quaternary compound, the wiper still exhibits a log reduction for *E. Coli* of at least about 2.

Conventionally, it was difficult to form food service wipers that released only a small amount of an antimicrobial agent, and yet still achieve the desired antimicrobial kill. (Appl. p. 1). For example, certain antimicrobial agents (e.g., quaternary ammonium compounds) are readily adsorbed by the polar fibers of many wipers. When adsorbed in this manner, they became bound to the polar fibers and thus generally less effective in killing bacteria present on a wiping surface. The present inventors have discovered, however, that this adsorption phenomenon may be controlled by selectively configuring the components of the sanitizing formulation based on the nature of the wiper materials. As a result, a greater portion of the antimicrobial agent remains unbound and free to interact with bacteria on the wiping surface. Through optimization of antimicrobial efficacy, smaller concentrations of antimicrobial agent may be utilized, which in turn leads to smaller amounts of the antimicrobial agent in the released solution. The combination of a low concentration of released antimicrobial agent is particularly important in food service applications, in which it is desired to minimize the likelihood that the antimicrobial agent will become present in large amounts in food that later contacts the wiped surface. (Appl. pg. 10).

Harrison, et al. completely fails to recognize the unique aspects provided by the present invention. Harrison, et al. fails to teach the concentration of the quaternary ammonium compound, either in the sanitizing formulation or in the released solution, when used in conjunction with a wet wipe. Moreover, Harrison, et al. also fails to teach the claimed log reduction of *E. Coli*, whether the sanitizing formulation is used directly or applied to a wiper. Perhaps even more importantly, Harrison, et al. fails to recognize the significant benefits that may be achieved by configuring the sanitizing formulation (i.e., compounds, relative amounts, add-on level, etc.) to the particular wiper materials to minimize adsorption of the antimicrobial agent by the polar fibers. In fact, many of the embodiments of Harrison, et al. relate to using the cleaning composition as a "direct application" product, such as in a manually operated spray dispensing container or a pressurized aerosol container. [0089] - [0090].

Applicants emphasize that the claimed invention must be considered as a whole in conducting an analysis under 35 U.S.C. §103. In the present case, Harrison, et al. fails to disclose multiple aspects of independent claim 1, including, for example a surfactant component consisting essentially of one or more nonionic surfactants and a quaternary compound present in an amount less than about 2000 parts per million of the released solution. When properly considered as a whole and in conjunction with the other limitations of claim 1, there is simply no motivation to modify Harrison, et al. in an attempt to render obvious claim 1. Thus, for at least the reasons set forth above, Applicants respectfully submit that independent claim 1 patentably defines over Harrison, et al.

In addition, Harrison, et al. was also cited to reject independent claims 27 and 35, as well as dependent claims 2-6, 8-26, 28-34, 36-38, and 49-55. Applicants respectfully submit, however, that at least for the reasons indicated above relating to independent claim 1, claims 2-6, 8-38, and 49-55 patentably define over the reference(s) cited. However, Applicants also note that the patentability of claims 2-6, 8-38, and 49-55 does not necessarily hinge on the patentability of independent claim 1. In particular, some or all of these claims are believed to possess features that are independently patentable, regardless of the patentability of claim 1.

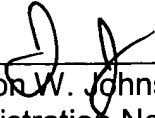
As such, for at least the reasons set forth above, Applicants respectfully submit that the present claims patentably define over all of the prior art of record. It is believed that the present application is in complete condition for allowance and favorable action, therefore, is respectfully requested. Examiner Boyd is invited and encouraged to telephone the undersigned, however, should any issues remain after consideration of this response.

Please charge any additional fees required by this Amendment to Deposit Account No. 04-1403.

Appl. No. 10/027,791
Amdt. dated Sep. 27, 2004
Reply to Office Action dated July 7, 2004

Respectfully submitted,

DORITY & MANNING, P.A.



Jason W. Johnston
Registration No.: 45,675

DORITY & MANNING, P.A.
P.O. Box 1449
Greenville, SC 29602-1449
Phone: (864) 271-1592
Facsimile: (864) 233-7342

Date: 9/27/04